

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
6 October 2005 (06.10.2005)

PCT

(10) International Publication Number
WO 2005/092286 A2

(51) International Patent Classification⁷: **A61K 9/00**,
41/00, B01J 13/02, B22F 1/00, 1/02, G01N 21/55, B41J
2/01

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laire, TX 77402-0429 (US).

(21) International Application Number:
PCT/US2005/010528

(22) International Filing Date: 29 March 2005 (29.03.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/557,290 29 March 2004 (29.03.2004) US

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(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ,
TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA,
ZM, ZW.

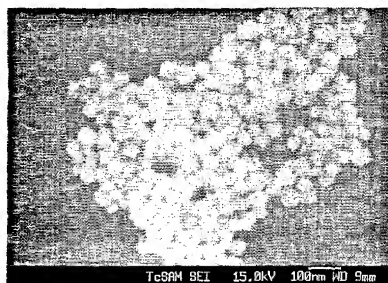
(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,
FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO,
SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN,
GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

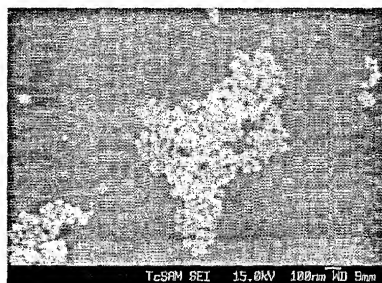
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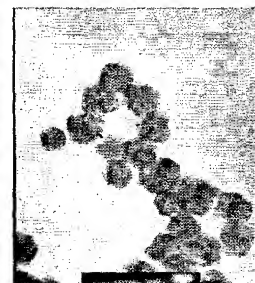
(54) Title: NEW NANO-PARTICLES AND DISCRETE POLYMER-COATED NANO-PARTICLES, METHODS FOR MAKING
AND USING SAME



A



B



C

(57) Abstract: Nano-structures are disclosed that are ideally suited for microelectronics, medical treatment, drug-delivery sys-
tems, targeted thermal absorption media, or other similar applications, where the nano-particles include metal oxide nano-particles
and metallic nano-particles including a metallic nano-shell or metallic nano-rods deposited on the surface of the nano-particles or
nano-shell nano-particles including metallic nano-rods deposited on the surface of the nano-particles and where the nano-structures
have a plasmon resonance. For *in vivo* medical applications, the plasmon resonance is tuned to a tissue-transparent frequency range.
Hydrogel-coated nanostructures are also disclosed, which are capable of transitioning between a non-collapsed hydrogel and a col-
lapsed hydrogel via thermal activation induced by electromagnetic irradiation.



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